

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-39 (canceled).

Claim 40 (previously presented): A booster comprising:

a booster circuit to which start-up energy necessary for starting up the booster circuit and operation energy necessary for continuing an operation of the booster circuit are supplied, wherein the booster circuit generates a boosted output obtained by boosting a low voltage generated by a power source, the low voltage output from the power source being a target to be boosted; and

a power supply unit that is disposed independent of the power source and supplies the start-up energy and the operation energy to the booster circuit.

Claim 41 (previously presented): The booster according to claim 40, wherein the low voltage that is the target to be boosted is supplied from a solar cell.

Claim 42 (previously presented): The booster according to claim 40, wherein the low voltage that is the target to be boosted is supplied from a fuel cell.

Claim 43 (previously presented): The booster according to claim 40, wherein the power supply unit is a solar cell.

Claim 44 (previously presented): The booster according to claim 40, wherein the power supply unit is a lithium storage cell.

Claim 45 (previously presented): A booster comprising:

a booster circuit to which either one of start-up energy necessary for starting up the booster circuit and operation energy necessary for continuing an operation of the booster circuit is supplied, wherein the booster circuit generates a boosted output obtained by boosting an output voltage generated by a power source, the output voltage from the power source being a target to be boosted;

a power supply unit that is disposed independent of the power source and supplies the start-up energy;

a selector circuit that outputs either one of the start-up energy and the operation energy to the booster circuit, wherein

the booster circuit outputs all or a part of the boosted output to the selector circuit as the operation energy.

Claim 46 (previously Presented): The booster according to claim 45, wherein the selector circuit comprises:

a first rectifier element connected between the power supply unit and the booster circuit; and

a second rectifier element that is normally connected in a direction in which all or a part of the boosted output is fed back to the booster circuit.

Claim 47 (previously Presented): The booster according to claim 45, further comprising:

an output controller circuit that is provided in a stage subsequent to the booster circuit and performs output control to the boosted output obtained from the booster circuit.

Claim 48 (previously presented): The booster according to claim 45, wherein the booster circuit comprises:

a unit that controls an ability of boosting of the booster based on the output control by the output controller circuit.

Claims 49-54 (canceled).

Claim 55 (previously presented): The booster according to claim 40, wherein the power supply unit is a storage element that stores the boosted output and generates a constant voltage output, and supplies the constant voltage output as the start-up energy and the operation energy.

Claim 56-57 (canceled).

Claim 58 (previously presented): A booster comprising:  
a booster circuit to which start-up energy necessary for starting up the booster circuit and operation energy necessary for continuing an operation of the booster circuit are supplied, wherein the booster circuit generates a boosted output obtained by boosting a low voltage generated by a power source, the low voltage output from the power source being a target to be boosted;

a power supplying unit that is disposed independent of the power source and supplies the start-up energy;

a switching unit that is supplied with the start-up energy from the power supplying unit and performs output control of the start-up energy, wherein

the booster circuit feeds back all or a part of the boosted output to the booster circuit as the operation energy and outputs the boosted output to the switching unit as a supply stop signal for the start-up energy, and

the switching unit performs control whether to output the start-up energy to the booster circuit based on a start-up signal, which is generated based on power generation control of the input voltage as the target to be boosted and the supply stop signal.

Claim 59 (previously presented): The booster according to claim 58, wherein the switching unit comprises:

a first switching element to which the start-up signal is input; and

a second switching element to which the supply stop signal is input and connected to the first switching element in series,

the switching unit causing the first switching element to be conducting when the start-up signal is ON while interrupting the first switching element when the start-up signal is OFF, and

the switching unit causing the second switching element to be conducting when the start-up signal is ON while interrupting the second switching element when the start-up signal is OFF.

Claim 60 (previously presented): A booster comprising:

a booster circuit to which either one of start-up energy necessary for starting up the booster circuit and operation energy necessary for continuing an operation of the booster circuit is supplied, wherein the booster circuit generates a boosted output obtained by boosting a low voltage generated by a power source, the low voltage output from the power source being a target to be boosted;

a power supplying unit that is disposed independent of the power source and supplies the start-up energy;

a switching unit that is supplied with the start-up energy from the power supplying unit and performs output control of the start-up energy; and

a selector circuit that outputs either one of the start-up energy and the operation energy to the booster circuit, wherein

the booster circuit outputs all or a part of the boosted output to the selector circuit and the power supplying unit;

the switching unit performs control whether to output the start-up energy to the selector circuit based on a start-up signal, which is generated based on power generation control of the input voltage as the target to be boosted.

Claim 61 (previously presented): The booster according to claim 60, further comprising:

a rectifier element connected between the booster circuit and the power supplying unit in a forward direction.

Claim 62 (previously presented): A booster comprising:

a booster circuit to which either one of start-up energy necessary for starting up the booster circuit and operation energy necessary for continuing an operation of the booster circuit is supplied, wherein the booster circuit generates a boosted output obtained by boosting a low voltage generated by a power source, the low voltage output from the power source being a target to be boosted;

a power supplying unit that is disposed independent of the power source and supplies the start-up energy;

a switching unit that is supplied with the start-up energy from the power supplying unit and performs output control of the start-up energy;

a selector circuit that outputs either one of the start-up energy and the operation energy to the booster circuit; and

a signal delay circuit that generates a delay signal obtained by delaying a power generation request signal sent for generating the input voltage as the target to be boosted by a predetermined time and outputs the delay signal, wherein

the booster circuit outputs all or a part of the boosted output to the selector circuit and the power supplying unit, and

the switching unit performs control whether to output the operation energy to the selector circuit based on the delay signal.

Claim 63 (previously presented): The booster according to claim 62, wherein the selector circuit comprises:

a first rectifier element connected between the storage element and the booster circuit; and

a second rectifier element that is connected in a direction in which all or a part of the boosted output is fed back to the booster circuit itself and in a forward direction.

Claim 64 (previously presented): A booster comprising:

a booster circuit to which either one of start-up energy necessary for starting up the booster circuit and operation energy necessary for continuing an operation of the booster circuit is supplied, wherein the booster circuit generates a boosted output obtained by boosting an input voltage as a target to be boosted; and

an auxiliary booster circuit that outputs the start-up energy generated based on the low voltage output to the booster circuit, wherein

the booster circuit feeds back all or a part of the boosted output to the booster circuit itself as the operation energy.

Claim 65 (previously presented): The booster according to claim 64, further comprising:

a unit that controls start-up of the auxiliary booster circuit based on the boosted output.

Claim 66 (previously presented): The booster according to claim 65, further comprising:

an output controller circuit provided around the booster circuit and performing output control to the boosted output obtained by the booster circuit.

Claim 67 (previously presented): The booster according to claim 66, wherein the output controller circuit includes a constant voltage element.

Claim 68 (previously presented): The booster according to claim 66, wherein the output controller circuit includes a constant voltage element and a constant current element.

Claim 69 (previously presented): The booster according to claim 66, wherein the output control circuit controls boosting capability of the booster circuit.

Claim 70 (previously presented): The booster according to claim 66, wherein the output control circuit performs time ratio modulation control to the booster circuit.

Claim 71 (previously presented): The booster according to claim 64, further comprising:

a power storing unit that stores all or a part of the boosted output, wherein the booster circuit feeds back a part of the boosted output to the booster circuit itself as the operation energy and controls start-up of the auxiliary booster circuit and the power storing unit based on the boosted output, and the selector circuit outputs to the booster circuit either one of the start-up energy output from the auxiliary booster circuit and the start-up energy output from the power storing unit.

Claim 72 (previously presented): The booster according to claim 71, wherein the selector circuit comprises:

a first rectifier element connected between the auxiliary booster circuit and the booster circuit in a forward direction; and a second rectifier element that is connected in a direction in which all or a part of the boosted output is fed back to the booster circuit and in a forward direction.

Claim 73 (previously presented): The booster according to claim 71, wherein a rectifier element is connected between the booster circuit and the power storing unit in a forward direction.



Claim 74 (previously presented): The booster according to claim 64, further comprising:

a voltage judging unit that judges an output voltage of an auxiliary booster circuit output that is an output of the auxiliary booster circuit; and

a switching unit that switches supply/stop of the auxiliary booster circuit output to the booster circuit based on a result of judgment by the voltage judging unit.

Claim 75 (previously presented): The booster according to claim 74, wherein the voltage judging unit comprises:

a comparator that compares the auxiliary booster circuit output with a predetermined standard voltage, wherein

a switching element included in the switching unit is controlled based on a result of comparison by the comparator.

Claim 76 (previously presented): The booster according to claim 74, wherein the voltage judging unit includes Darlington-connected transistors that become conducting when the auxiliary booster circuit output reaches a predetermined voltage, wherein

a switching element included in the switching unit is controlled based on the auxiliary booster circuit output and a voltage drop that occurs between a base and an emitter of the Darlington-connected transistors.

Claim 77 (previously presented): The booster according to claim 64, wherein the auxiliary booster circuit includes a switched capacitor type circuit.

Claim 78 (previously presented): The booster according to claim 64, wherein the auxiliary booster circuit includes a charged pump type circuit.